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Research Article

Methods of Improving and Optimizing English Education in Colleges and Universities Assisted by Microvideo Technology

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English teaching in general higher education is faced with great challenges. English teachers have to face a group of students from different regions, who have received different English teaching methods during middle school, and their English proficiency is uneven. At present, the teaching methods of most colleges and universities are backward, unable to make full use of modern information technology, and students have low interest in learning, poor independent learning ability, and low learning effect, especially in English. In order to comprehensively improve students' English level, English teaching methods in colleges and universities should be completely different from the traditional teaching methods in middle schools. This paper sorts out trial research, questionnaire survey, and data analysis method and combines some problems existing in college English teaching and the characteristics of microvideo, such as short, concise, sound, and text, to apply microvideo as a teaching resource in college English grammar teaching. A trial group was set up to study the effectiveness of microvideo teaching. No students in the trial group disliked the microvideo teaching and the average score of students in the trial group was 8.992 points higher than the average score of students in the traditional group. The results show that microvideo teaching can not only increase students' interest in learning English but also improve their English language skills.

1. Introduction

In recent years, with the continuous development of the network and modern education technology, the traditional teaching methods need to change correspondingly, and the teaching mode of microvideo has gradually entered the teaching stage. The integration of microvideo into English classroom teaching allows students to freely enter the situation created by the microvideo to learn independently, making the originally boring teaching process vivid and interesting. [1–5] Through rigorous design, microvideo can give students a large amount of information in a short time, which is suitable for students' cognitive characteristics such as short attention span. Microvideo can give different students different learning needs and meet their learning needs. In the case of intuitiveness and interest, students can complete their learning tasks more effectively and improve their self-confidence. [6, 7].

Through the application of microvideo in English classroom teaching, students can use microvideo to arrange and control their own learning according to their own situation in the English classroom, which can be carried out in a relaxed atmosphere, breaking the form of teacher singing a solo show in the original classroom. [8–12] Students can watch videos at their own pace, rather than closely following the pace of the teacher. What you have learned can be fast-forwarded, what you have not learned can be watched over and over again, or you can stop to think carefully or practice. In addition, you can also learn through group cooperation or with the help of the teacher. The teaching reform that combines microvideo with English classroom teaching truly focuses on learners, regards students as the main body of the teaching process, and respects students' individual differences and personalized needs. In China, in the present stage of higher education, the teaching of English subject is often valued as skills training, teaching form does not have novelty, could not keep up with the pace of The Times development, and English teachers are still in accordance with the "speak, play, and practice," the traditional teaching method of teaching, not giving full play to students'

various aspects and abilities. It is not conducive to the cultivation of information literacy. [13–16].

In the traditional teaching mode, there is less exploration in bring learners into the corresponding learning situation, which is generally explained step by step based on the examination content, which is insufficient to mobilize students' interest in learning. Based on constructivism theory, microlearning theory, situational teaching theory, and knowledge visualization theory, this paper deepens the unique advantages of microvideo teaching resources and applies them to English grammar teaching in colleges and universities through the integrated application of relevant theoretical concepts, in order to obtain better teaching effects and gradually form a teaching model, so as to enrich the theoretical research results of the application of microvideo in English grammar teaching. [17–21].

Microvideo teaching is helpful to enhance students' interest in Learning English and cultivating their independent learning ability. In order to change the monotonous and boring characteristics of traditional teaching and enhance students' interest and enthusiasm in learning English grammar, microvideo teaching should be applied in English grammar teaching in a timely and appropriate way to create a real and vivid language teaching situation. Meanwhile, with the help of microvideo, students can play the video unlimited times, anytime and anywhere, so that they can not only check and fill in the gaps of knowledge that they do not know but also review the old and learn the new, so as to cultivate students' ability of independent inquiry and learning. Microvideo can help teachers change teaching methods and improve classroom efficiency. Microvideo teaching is a new teaching method. In English grammar teaching, teachers can effectively integrate excellent microvideos and share resources, which can not only reduce the burden of teachers but also enable students to actively learn grammar knowledge, which is convenient to improve classroom efficiency and maximize classroom teaching. [22–25] Exploring the application of microvideo teaching in actual English grammar teaching, the microvideo teaching resources are applied to judge the ultimate impact of this teaching method on students' academic performance and to break through the key and difficult points. Based on the application of English grammar in colleges and universities, it is extended to all aspects of English listening, speaking, reading, and writing. [25–27].

Taking college English classroom teaching as an example, this paper analyzes the application ideas and status quo of conventional English teaching. According to the actual situation of college English classroom teaching, this paper tries to combine microvideo with classroom teaching to carry out classroom teaching reform, such as reasonable use of classroom time and improving teaching effect and efficiency.

2. Microvideo Theory

2.1. Microlearning Theory. The biggest characteristics of microvideo are short, fast, fine, and mass participation. Compared with traditional teaching resources, microvideo

teaching resources have vivid images, stimulates the senses, make abstract knowledge interesting, short time, precise content, simplifies the classroom, improves classroom efficiency, and student participation.

Grammar is the basis of learning language subjects well. Languages are governed systems, and such rules are grammatical rules. Mastering grammar rules is the key to improve the language skills of listening, speaking, reading, and writing. Students not only need to master a variety of advanced vocabulary but also must master a variety of sentence patterns and tenses, which shows how difficult it is for college students to learn English grammar well. English grammar microvideo in higher education refers to the production of English grammar knowledge into short and concise video resources in accordance with English curriculum standards and students' cognition skills with the help of modern tools, so as to facilitate students' understanding and learning of grammar. We summarize the grammar contained in the textbook, download or record short videos of relevant grammar knowledge, and create a vivid and interesting micro-video teaching situation, thus causing a strong visual feast for students and motivating them. Meanwhile, we summarize and categorise the relevant grammar, simplify and systematise it in a piecemeal manner, so as to help students structure their grammar knowledge and build up their self-confidence in learning. The clear and convenient grammar tutorials provided by the grammar microvideo can meet the aim of some students to learn grammar when they want, where they want, and to consolidate their grammar knowledge whenever and wherever they want.

The concept of microlearning theory was first introduced in the early years of the 21st century and refers to learning activities that deal with relatively small learning units and focus on short periods of time. Microlearning also refers to "learning activities that break down knowledge into smaller learning units and that people can do in their daily communication and work", emphasising the convenience of microlearning. Microlearning is a learning activity supported by information technology with micromedia, microprocesses, and microresources based on the concept of ubiquity, connectivity, ecology, and uniqueness. Micromedia emphasise learning activities that involve learning to master smaller pieces of knowledge in a limited amount of time. Learners can learn whenever and wherever they need to, and the content knowledge learned is generally brief. The media provide many preprocessed knowledge modules or knowledge points, which are usually both interlinked and independent of each other.

2.2. Knowledge Visualization. Knowledge visualization is a new teaching idea and an important means to acquire knowledge in the era of graphic existence. Visual representation is the most effective form of knowledge visualization, including knowledge presentation, transmission, and acquisition. Knowledge visualization emphasizes the visualization of learning content and knowledge, and improves students' learning ability and knowledge construction ability

through visual organs. Knowledge visualization is a new requirement of teaching reform and development in the era of graphic survival. Knowledge visualization can not only externalize the tacit knowledge but also visualize, animate, and simplify the explicit knowledge, which can promote the dissemination and innovation of knowledge among groups. However, both visual design and visual application of knowledge are closely related to visual representation, which is an indispensable part of teaching. Therefore, visual representation is a crucial form to realize the value of knowledge visualization. In addition, based on graphic design and cognitive science, knowledge "transmission" and "innovation" can be promoted, such as concept map, mind map, and knowledge animation. Under the condition of information technology, numerous video websites have massive video resources, which provide great convenience for teaching. Figure 1 represents the transformation of dry knowledge into an easy-to-remember picture or video.
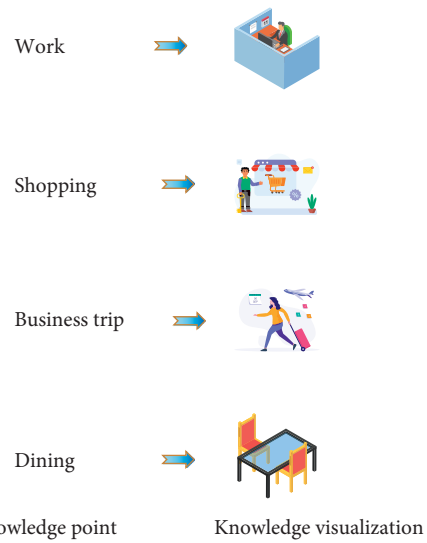
2.3. Immersion Teaching.

2.3. Immersion Teaching. Situational teaching is a kind of teaching mode which sets out from the angle of feeling and environment, feeling and speech, feeling and reason, and feeling and all-round development that creates the situation which is beneficial to students' study, stimulates students' interest, and combines emotional activities with cognitive activities. Video teaching in the foreign language classroom extends the teaching content by creating contexts, creating realistic and vivid language situations to arouse students' response to English, increase their enthusiasm for learning English, build their confidence in learning English, develop their ability to learn independently, form a good sense of English and intonation, and lay the foundation for them to communicate in English in their daily lives. The visualization process of teaching English increases the extent to which students remember points (Figure 2).
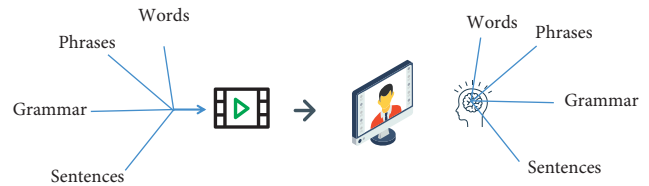
3. Feasibility of Microvideo Implementation

3.1. Features of English Language Teaching. Grammar is a combination of common patterns, types, and rules summarized from many complex grammar groups. Grammar has strong abstractness and generality. Grammar is a kind of language rules and is the key to master the language. Therefore, to learn a language, we must first understand its grammar rules, which is also true for English learning. English grammar is the expression of English language rules, which can be divided into five levels: sentence, clause, phrase, word, and morpheme. A good command of English grammar is very important for an English learner. The knowledge of English grammar includes not only verbs, adverbs, numerals, and other basic parts of speech but also difficult tenses, such as past continuous, present continuous, present perfect, and past perfect. English grammar content is such a large and complex collection, and it is scattered in English textbooks. In addition, the boring characteristics of grammar content itself make it even more difficult for non-native English learners to learn grammar well. However, after careful summarization, it is found that English

FIGURE 1: Visual transformation of knowledge points.

FIGURE 2: Visualizing the process of teaching English.

grammar knowledge has potential stability and regularity. For the majority of college students, learning grammar is the most important thing to learn English well in the future. The short and concise feature of microvideo is combined with the systematic feature of English grammar. With the feature of both pictures and videos, students can better understand abstract grammar knowledge, master the rules of English grammar weaving, learn English language better, and improve English communication ability. Figure 3 shows the structure of the language.

3.2. Characteristics of English Teaching. In college, many students come from different regions and receive different education methods, so their learning ability and acceptance ability are at different levels. The traditional way of education is to teach according to one standard, which is difficult to meet the learning requirements of all people. At the same time, college students have more freedom in extracurricular activities, and it is more difficult to spend a lot of time previewing and reviewing lessons after class. Therefore, students must master more knowledge and memorize more knowledge points in class. At the same time, the use of more advanced teaching methods to increase students' independent learning ability, increase their personal interest. In teaching, teachers should grasp these characteristics of college students, timely and appropriate use of various teaching means, using new things to stimulate students' interest in learning. Only when students are full of fun and
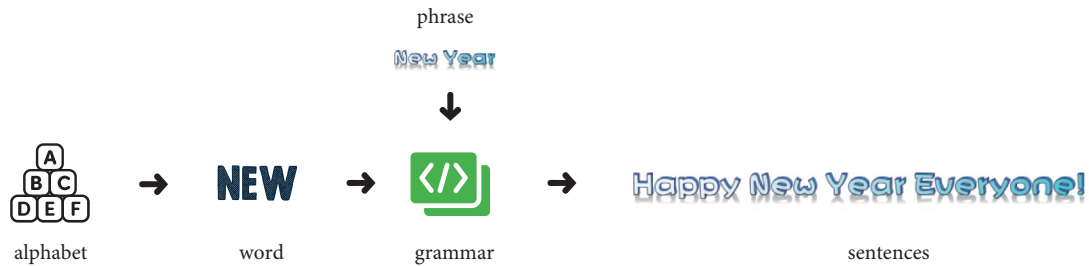
Figure 3: The structure of the language.

enthusiasm can they improve their learning efficiency and achieve twice the result with half the effort.

Microvideo teaching resources are generally set for a certain knowledge point or teaching link, and the length of time is generally limited to about five to eight minutes. Compared with traditional English grammar teaching, microvideos are more flexible and targeted, with clear themes and graphic features, which are more in line with the daily learning habits of college students. Combined with the characteristics of English textbooks and students' learning characteristics, the advantages of microvideo teaching resources in grammar teaching are found. Combining the "short and concise" characteristics of microvideo with the scattered and boring characteristics of language grammar, a microvideo teaching mode suitable for college students to learn English is created, which is conducive to students' mastering of grammar knowledge and improving their ability to use grammar, so as to study English more carefully and intently, and improve their English scores.

In traditional classroom teaching, teachers generally focus on the content of the books, with teachers talking and indoctrinating while students mechanically receive. The dryness and abstractness of English itself, as well as the teaching conditions and the characteristics of students, make it much harder for students to learn English well. The advantages of microvideo illustrations, short and concise, and the traditional classroom complement each other, making it possible to improve the quality of English teaching. The teaching context that the microvideo can create is more in line with students' cognitive needs and allows them to focus more on their English learning, thus stimulating their interest in learning English. The use of microvideo teaching in English language teaching is appropriate to create a language situation associated with the teaching content, so as to change the traditional teaching of a single boring mode and enhance students' interest and enthusiasm, and motivate them in learning English. Meanwhile, students can make use of the feature that microvideo can be played anytime and anywhere without restriction, so that they can not only check the content of knowledge that they do not understand but also learn new things from the past, thus developing students' ability and habit of independent inquiry into English language knowledge. Microvideo teaching is a new type of teaching method. By using the characteristics of storable and replayable microvideo teaching resources, teachers can effectively integrate and share resources of excellent microvideos in English teaching, which can not only reduce the burden of teachers but also make students actively participate in English classroom learning in order to improve the classroom efficiency of English learning. Therefore, the use of microvideos in English grammar learning is not only convenient for students but also for the teachers.

4. Implementation of Microvideo Teaching

4.1. Contrast Test Setup. In this trial, new students were divided into two groups of 100 each randomly assigned. The two groups were randomly selected. None of them had studied college English. One group followed the traditional teaching mode, while the other group adopted microvideo assistance in the normal teaching process. The trial lasted for a semester, and the effect of the trial was tested by comparing the scores at the end of the semester. At the same time, questionnaires were used to understand the application effect of microvideo in English teaching.

Design of the two groups of courses according to the first lesson of college English I, A New Start. The trial design is shown in Table 1.

4.1.1. Teaching Application Examples. Course: A New Start. Course focus analysis: this part of the course is the first lesson in the university and is about introducing people to each other and starting a new life. By watching a microvideo in which people are introduced to each other, it introduces what we are about to learn in this topic: A New Start. Students are able to recognise key vocabulary, key phrases, and important grammatical structures through the dialogue in the video. These points are then applied to the self-presentation through student interaction, and they are memorised without realising it. Figure 4 shows multiple scenarios of self-presentation.

The relevant microvideo is copied onto the electronic whiteboard in the trial class before the lesson and students are divided into established groups and assigned pre-watching tasks, which are completed through discussion and analysis among the group members. The exercises are then tested, explored, and summarized in class to further consolidate students' mastery of the new curriculum. This lesson uses microvideos to supplement the teaching of English and uses group competition and cooperation to complete the exercises, increasing students' motivation to participate.

TABLE 1: Trial design.

| Teaching link	Microvideo teaching group	Traditional teaching group
1	Carry out microvideo guidance course	Learn according to books
2	Microvideo introduces new lessons, explains, and summarizes knowledge points	The teacher enters the new curriculum according to the textbook and summarizes the knowledge points orally
3	Microvideo consolidation exercises	Practice according to the exercises after class

FIGURE 4: Self-introduction microvideo.
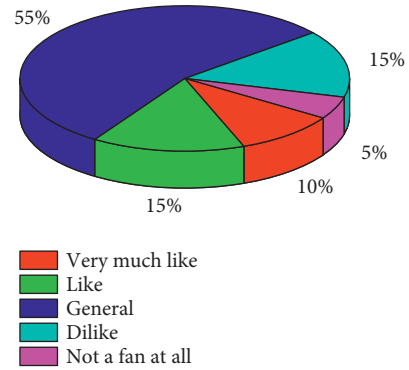
FIGURE 5: Level of enjoyment of the subject of English.

FIGURE 6: Most difficult part of English.

4.2. Effectiveness of Microvideo Teaching. The main purpose of this questionnaire is to find out students' attitudes and feelings towards the use of microvideo for English grammar teaching, feedback on its effectiveness, and whether they are willing to continue using it. The students' attitudes towards microvideo-assisted English teaching involved three main questions: Do you like English as a subject? Which aspect of English do you feel is the most difficult? In classroom teaching, do you like the teacher's use of microvideo for English teaching? The questionnaire was used to get a true picture of students' attitudes towards English as a subject, the difficulties in learning English, and how students really feel about the use of microvideo for English-assisted teaching in the classroom.

According to Figure 5, when it comes to whether students like English as a subject, 10% said they liked it a lot, 15% said they liked it, 55% said they liked it generally, 15% said they did not like it, and 5% said they did not like it at all. The above figures show that only 25% of the class enjoyed English. At the same time, 55% of the students expressed a general preference for English, which indicates that learning English is a major barrier to learning for most students. Therefore, it is imperative to increase the class participation rate and student enjoyment.

Figure 6 shows the results of the questionnaire survey on the most difficult part of English. As can be seen from Figure 6, 30% regard listening as the most difficult, 40% regard speaking as the most difficult, 10% regard reading as the most difficult, and 20% regard writing as the most difficult. As can be seen from the above data, oral English is considered the most difficult to learn by students. It can be seen that the output of English is the most difficult part of learning, and repeated input is needed to break through English learning. Repeated learning at difficult points can comprehensively improve oral English learning.
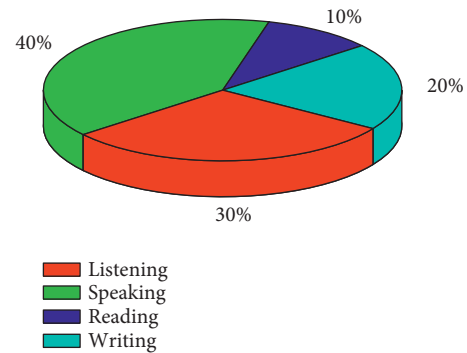
Figure 7 is a survey of students' liking for microvideo teaching. Figure 7 shows that 60% of the students like microvideos very much, 30% like them, and 10% like them generally. There is no student who does not like this teaching method. It can be seen from the data that all students can accept microvideo teaching, and 90% of students like teachers to use microvideo assisted teaching in English class. This shows that the microvideo teaching method is widely welcomed by students and is a successful attempt.

Figure 8 shows the research on how microvideo teaching helps English learning. As can be seen from Fig. 8, 21% of students think microvideo teaching is very helpful for English learning, 49% think it is helpful, 17% think it is a little helpful, and 13% think it is not helpful. It is worth noting that none of the students thought that microvideo teaching was useless for English learning. This shows that microvideo teaching can stimulate students' interest and enthusiasm in learning and make them like learning English more.
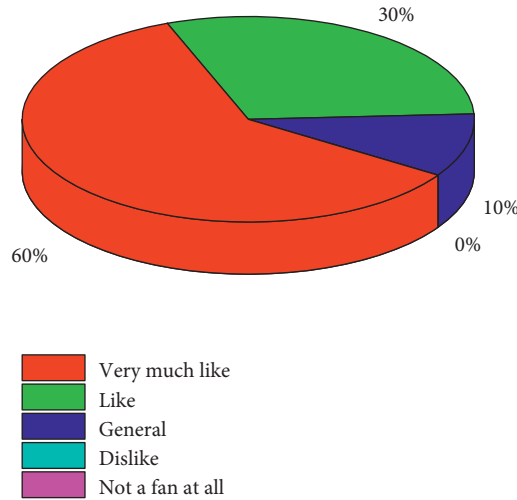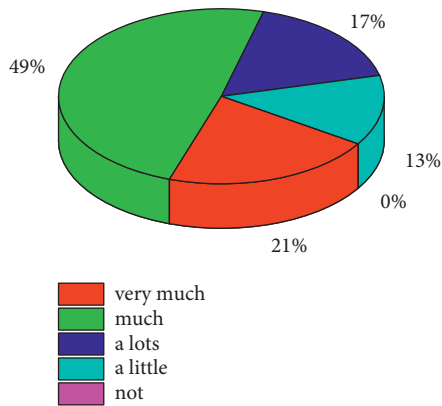
FIGURE 7: Level of liking microvideo.

FIGURE 8: Results of microvideo teaching on the usefulness of learning.
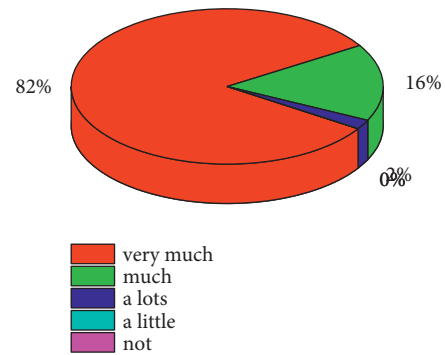

FIGURE 9: Results of the survey on whether students want to continue microvideo teaching.

The research in response to whether to continue with microvideo teaching is shown in Figure 9. As can be seen from Fig. 9, 82% of the students very much wanted to continue microvideo-assisted English teaching, 16% wanted to continue microvideo teaching, only 2% of the students generally wanted to continue microvideo teaching, and no students did not want to continue microvideo teaching. This reveals that all students hope to continue microvideo teaching, which is students' recognition of this teaching method.

4.3. Test Result Inspection. In this study, final tests were conducted on the trial group and the general group, and the results of the two groups were analyzed by sample Student-test, and the results obtained are shown in Table 2.

As can be seen from Table 2, the average score of the final exam of the trial group is 52.263, and that of the traditional group is 43.271. The average score of the trial group was 8.992 points higher than that of the traditional group, with a large gap between the two groups. The standard deviation of

TABLE 2: Student-test analysis results of other grades of the two test groups.

Group	Sample size	Average	Standard deviation	Standard error
Microvideo	100	52.263	10.564	3.594
Traditional	100	43.271	13.018	4.171

the final exam results of the trial group is 10.564, while that of the traditional group is 13.018, indicating that the distribution of the results of the traditional group was more discrete than that of the trial group, and there was a large difference among the students in the traditional group.

As shown in Table 3, the P value of the independent sample test of scores was equal to 0.027 <0.05, indicating that the scores of the two groups were significantly different, and it was obvious that the scores of the trial group were higher than those of the traditional group.

Microvideo teaching resources are more in line with the preferences of contemporary university students than text and images. The classroom teaching involving microvideo

TABLE 3: Independent sample test form.

	Variance isotropy test				Mean isotropy student-test				
	F	Single tail significance	t	Degrees of freedom	Two-tailed significance	Average difference	Standard error difference	95% confidence upper bound	95% confidence lower bound
Assumed isovariance	1.825	0.257	1.951	97.534	0.027	6.578	3.952	−0.655	14.256
Nonassumed isovariance			1.951	94.554	0.027	6.578	3.952	−0.662	14.356

simplifies and vivifies students' English learning through dynamic pictures, lively situations, and brightly colored scenes, which has been praised by the majority of students. In English class, the introduction of microvideo English teaching timely and appropriately can not only attract students' attention but also mobilize students' enthusiasm in Learning English to a great extent and stimulate their enthusiasm for learning. Based on the above analysis of student questionnaire and performance test of microvideo English teaching, the teaching design of microvideo in the new English teaching in this study has injected vitality into classroom teaching to a certain extent. The vivid and lively scenes created by microvideos can well attract students' attention in class, improve students' motivation to learn or want to learn English, and improve classroom efficiency and English teaching effect.

5. Conclusion

In this paper, microvideo technology is applied to college English teaching. In the classroom teaching involving microvideo, students' English grammar learning is simplified and vivid through dynamic pictures, lively situations, and brightly colored scenes, which is highly praised by the majority of students. The success of microvideo in English teaching not only increases students' interest in English learning but also improves the level of college English teaching. The application of microvideo technology can well solve the problems of college English teaching and make students from different regions receive more appropriate teaching methods.

Data Availability

The data used to support the findings of this study are available from the author upon request.

Conflicts of Interest

The author declares no conflicts of interest.

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